Register online to extend extra 12 months warranty and one time free calibration at 1st year. (Freight excluded).

Website Register :
www.uprtek.com/big5/products_detail.asp?pid=149

* To ensure your right, please. put agent's stamp and fill up date of purchase. Warranty period will base on manufacture date if warranty card has no agent's stamp and purchase date.

Original / Authorized Agent Stamp

Product Serial Number : _____

Purchase Date : _____

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UPRtek 群燿科技股份有限公司
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MK350 LED METER

User Manual and Warranty

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1

MK350 Introduction

- 1.1 Packing Contents
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- 1.4 Calibration Period
- 1.5 Product Notice

1.1 Packing Contents

Please check MK350 packing before use, contact your agent if there are missing items.

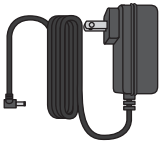
Case

MK350 LED Meter

Protection Bag

Battery

USB Cable


Power Adaptor

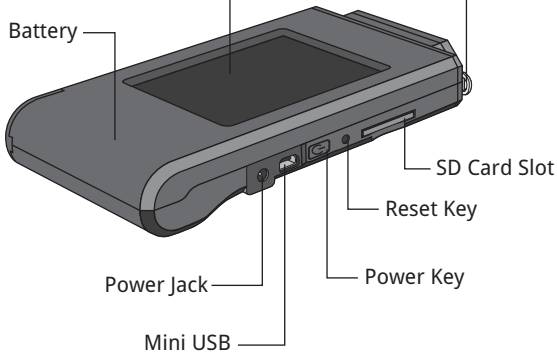
Screen Protector

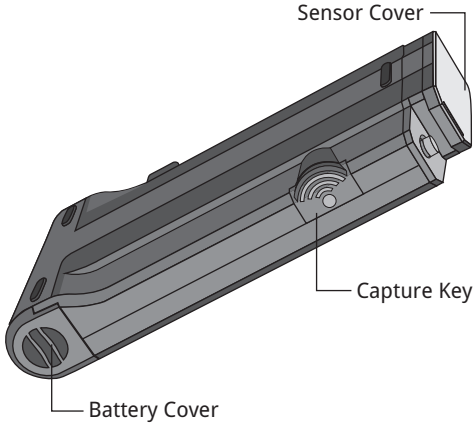
Strap

Neck Strap

User Manual and Warranty

1.2 Appearance Introduction





1.3 Product Features

1. 250g Only, Light and Easy to Carry
2. Measure at Any Time, High Mobility
3. 3.5" Color Touch Screen
4. Simple Interface, Easy to Use
5. SD Card Storage, Easy to Transfer Data

1.4 Calibration Period

This product is a high-precision measurement equipment, to ensure the accuracy of the measurement, it is recommended to have calibration once a year. Please contact your agent or our customer service department for calibration service.

1.5 Product Notice

1. MK350 LED Meter is a high-precision equipment. Please unpack with care. Any shock or hit might damage the equipment. Please contact your agent if it cannot operate normally or need to be repaired.

2. LCD screen manufacturing process has more than 99.9% effective pixels and less than 0.1% defect pixels. Defect pixels might be white or other colors and it will not affect the accuracy of the measurement. Users can use it without worries.

Security Warning

Please read the following precautions to avoid fire, excessive heat, chemical leakage and explosion :

- Do not disassemble or modify the battery.
- Do not expose the battery to fire or water.
- Dispose of batteries with tape to insulate the battery electrical contacts. It can avoid battery contact with other metallic objects and cause fire or explosion.
- Please unplug the power and stop charging immediately if the battery has overheating, smoking, peculiar smells, which is avoiding fire.
- Do not put all kind of cables near the heat surrounding, cables might deformed or the insulating layer might melted, which could cause a fire or electric shock.
- Do not use a cloth cover or wrap the equipment while charging, it might cause housing deformed or a fire.
- If equipment fall into water or water/metal fragments enter inside the equipment, please remove the battery immediately, which is avoiding fire or electric shock.
- Do not use or store the battery in high-temperature environment, it will cause battery leakage or shorten the battery life.
- Do not use paint thinner, benzene or other organic solvents to clean the equipment, or may cause fire or damage health.

2 Preparing Before Use

2.1 Battery Installation and Charging
2.2 Memory Card Installation
2.3 Strap and Neck Strap Installation
2.4 Screen Protector
2.5 Power On / Off
2.6 Dark Calibration
2.7 Option Function Setting
2.8 System Reset

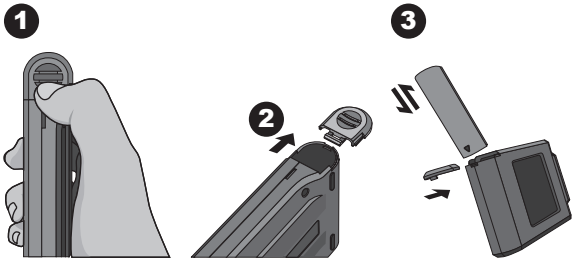
2.1 Battery Installation and Charging

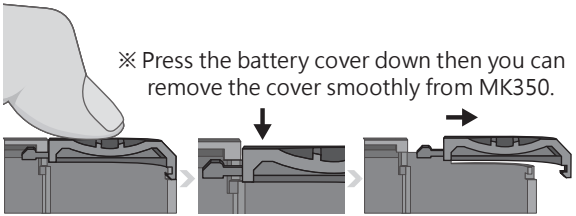
Battery installation：

Step1. Hold MK350 then press the battery cover.

Step2. Press the battery cover down to remove it.

Step3. Install the battery after remove battery cover.





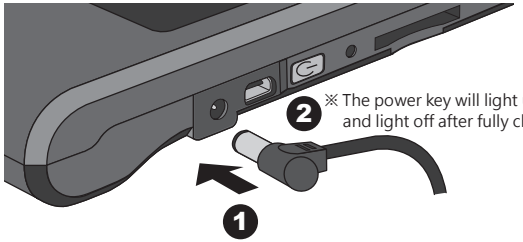
※ Press the battery cover down then you can remove the cover smoothly from MK350.

1. Please charge the battery for 6 hours at first time usage.
2. To avoid any interruption while measuring, please check battery status before use.
3. Please purchase a new battery if battery low easily after fully charged, it means battery life end.

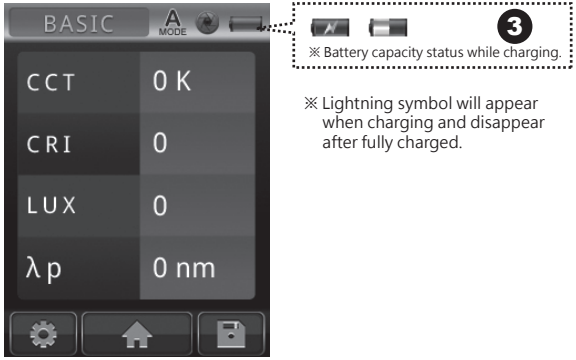
2.1 Battery Installation and Charging

Battery charging：

1. Plug power charging cable into power jack to start charging.
2. Power Off Status: Users can check power key, it will light in red while charging and light off after fully charged.
3. Power On Status: Users can check MK350 screen, it will appear a lightning symbol to indicate charging, and lightning symbol will disappear after fully charged.



※ The power key will light up in red, and light off after fully charged.

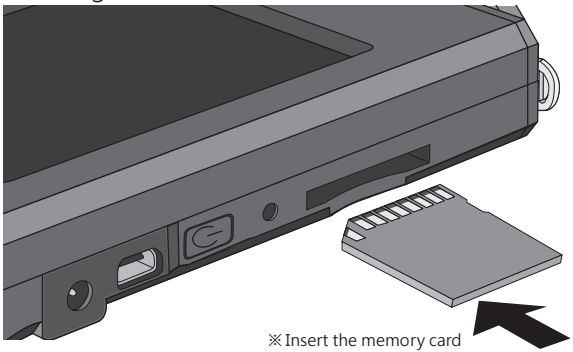


※ Battery capacity status while charging.

※ Lightning symbol will appear when charging and disappear after fully charged.

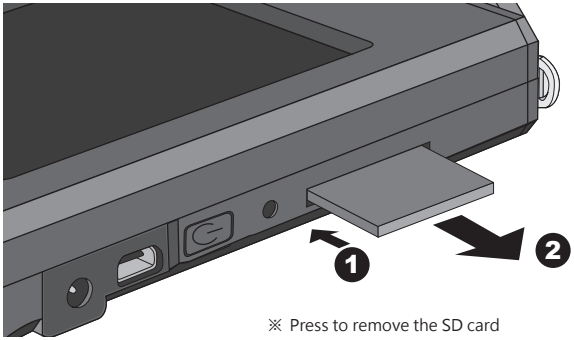
2.2 Memory Card Installation

Installing the SD Card：



※ Insert the memory card according to the direction.

Remove the SD Card：

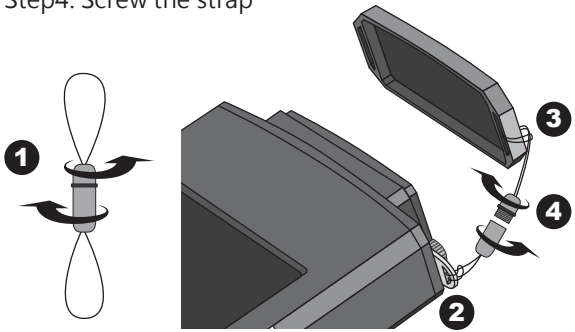


※ Press to remove the SD card

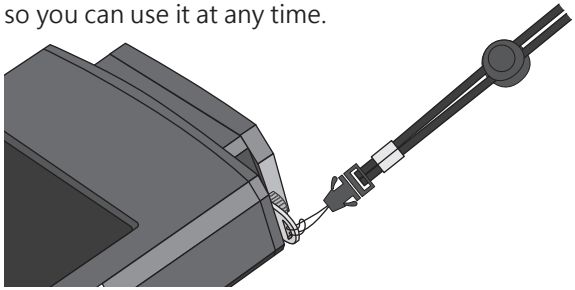
1. Check SD card status, refer 2.7 Storage
2. Check SD card storage method, refer 3.2 Save Measured Data

2.3 Strap and Neck Strap Installation

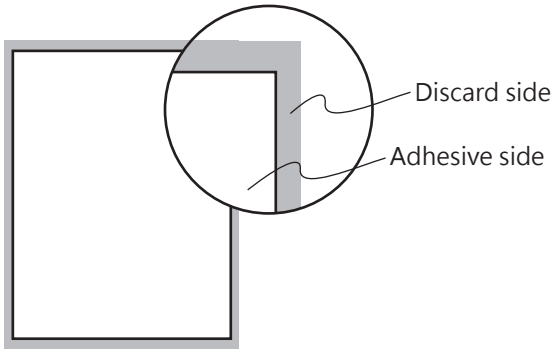
Strap installation：
Step1. Unscrew the strap
Step2. Tie the strap to the strap hole of MK350
Step3. Tie the strap to the sensor cover
Step4. Screw the strap

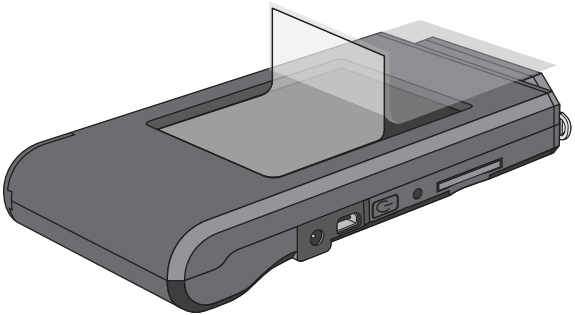


Neck strap installation：
Tie on the strap hole of MK350 put on your neck so you can use it at any time.



2.4 Screen Protector

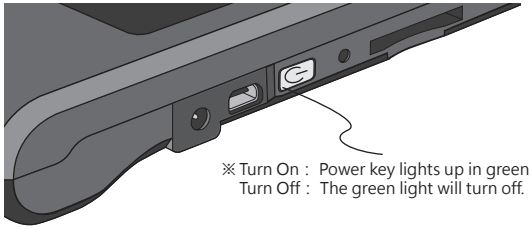




1. Make sure to remove bubbles when attach the sticker on the screen or it will affect visual experience.

2.5 Power On / Off

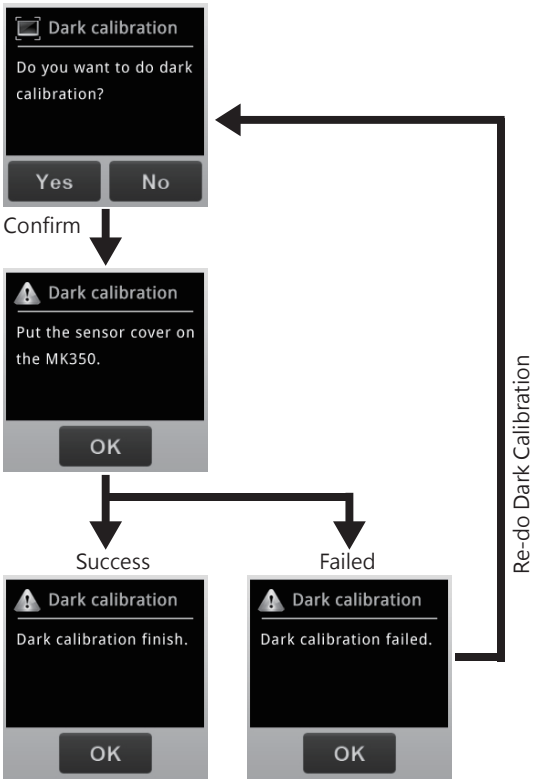
Turn on the power：Press the power key for 1 second.
Turn off the power：Press the power key for 5 seconds.



※ Turn On： Power key lights up in green light.
Turn Off： The green light will turn off.

2.6 Dark Calibration

1. After turn on MK350, system will process dark calibration automatically.



1. Suggest to execute dark calibration when every time turn on MK350.

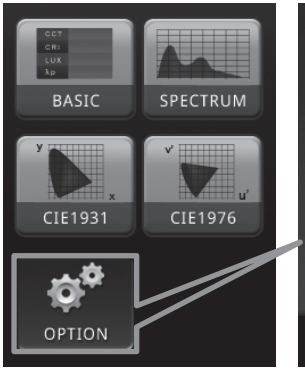
2.6 Dark Calibration

2. When using MK350, users can execute dark calibration manually.

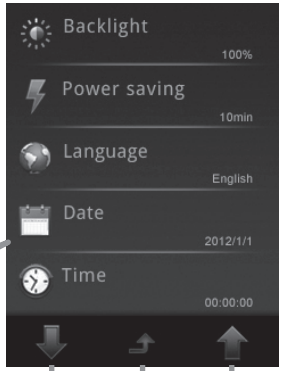
Users can go to measurement page then select MEASUREMENT SETTING --> DARK CALIBRATION to execute dark calibration manually.

2.7 Option Function Setting

Go to main menu and select OPTION to start system setting.



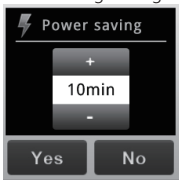
Main Menu



Next page | Back to main menu | Previous page

Backlight Setting :

Power Saving Setting :



Language Setting :

Date Setting :

Time Setting :

+ / - : Adjust key
Yes / No : End of the setting

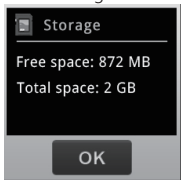
2.7 Option Function Setting

SD Card Ready : Users can use storage function.

No SD Card : System can't read the SD card or no SD card inside.

Remaining Power

Check Storage Device :

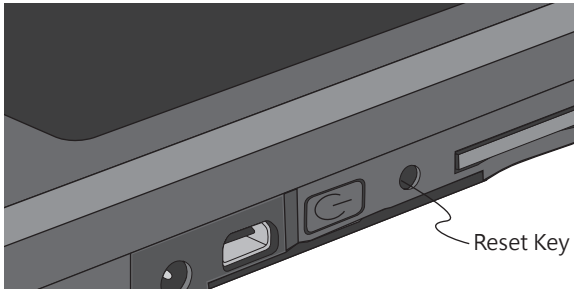


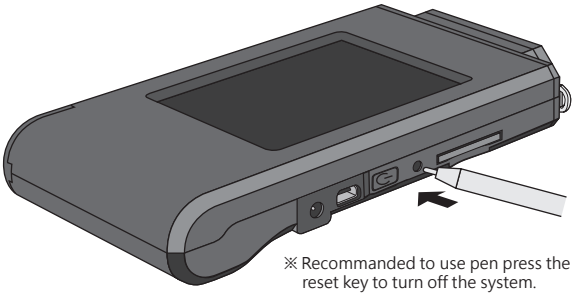
Check Version :

1. Please setup date and time before save the files.
2. Users can setup auto power-off time to save battery power. Default auto power-off setting is 10 minutes.
3. Users will need to fill up optical serial number when on line regist, meantime, please go to version to check optical serial number.

2.8 System Reset

Users can press the reset key to turn off the system if system crashed.





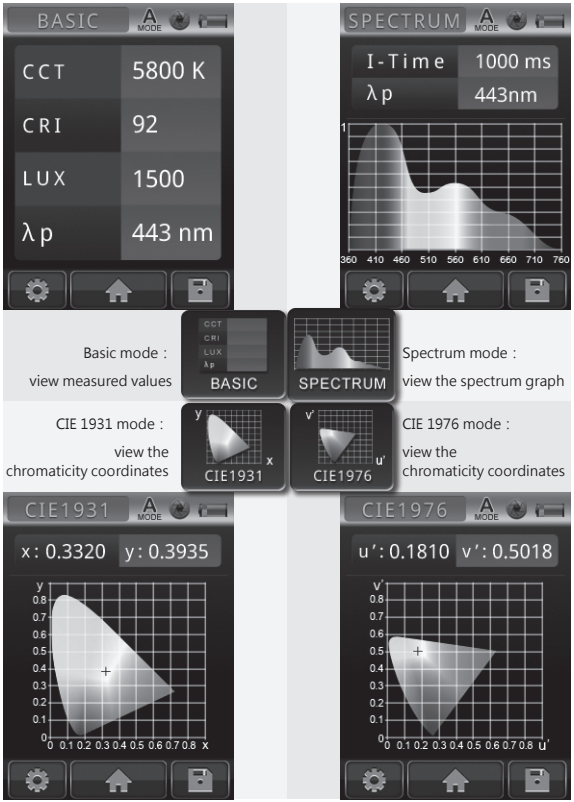
※ Recommanded to use pen press the reset key to turn off the system.

3 System Overview

3.1 Measurement Modes Introduction
3.2 Measurement Introduction
3.3 Measurement Setting Introduction
3.4 Continuous Measurement Introduction
3.5 Transferring Data with PC Connection

3.1 Measurement Modes Introduction

4 kinds of measurement modes：



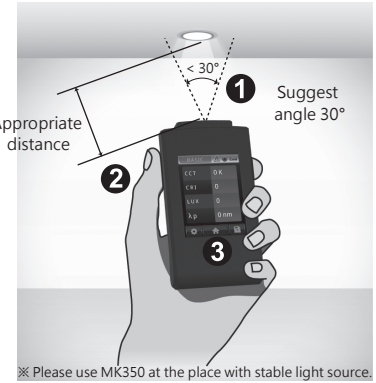
3.1 Measurement Modes Introduction

Interface introduction：

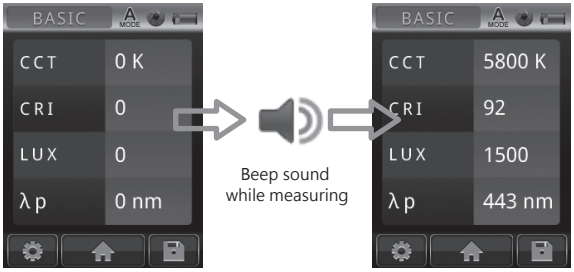
Means button

1. Measurement mode - BASIC / SPECTRUM / CIE1931 / CIE1976
2. Integration mode - Auto A MODE / Manual M MODE
3. Capture function - One time / Continuous
4. Battery capacity
5. Measurement result
6. Measurement setting
7. Back to main menu
8. Save data

3.2 Measurement Introduction



※ Please use MK350 at the place with stable light source.



Basic mode
(before measuremen)

Press capture key to
start the measurement

Basic mode
(after measurement)
Display the measurement results

Step1. Point sensor head at light source with suggest angle 30°.

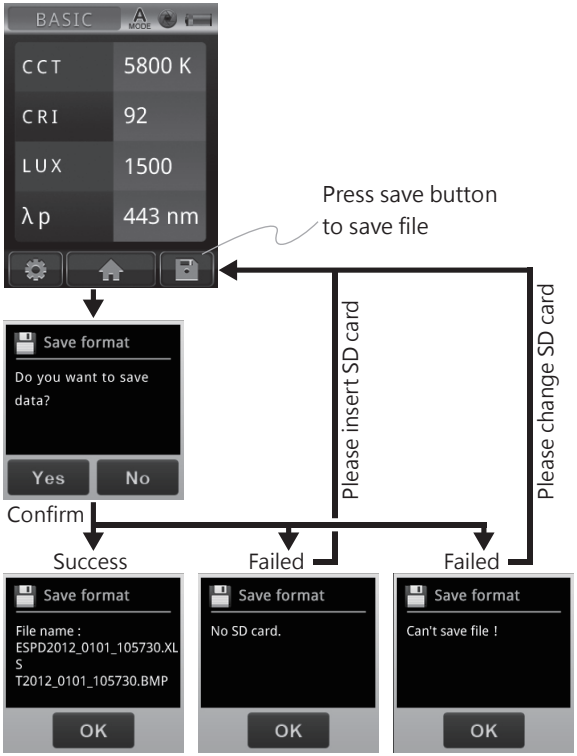
Step2. At appropriate distance then press capture key.

Step3. After beep sound, measured data will display on the screen.

1. Operation sound setting, refer 3.3 Operation sound

3.2 Measurement Introduction

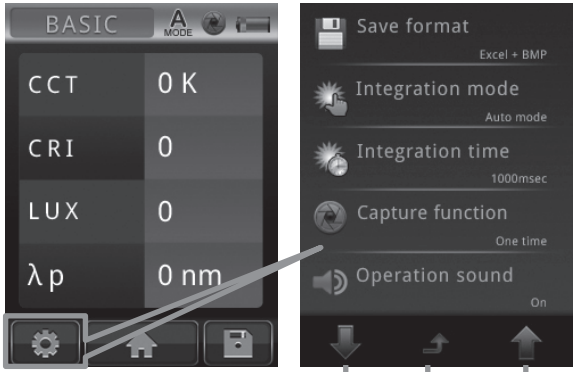
Save measured data :



1. Save format setting, refer 3.3 Save format
2. Available capacity of SD card, refer 2.7 Storage

3.3 Measurement Setting Introduction

Please go to measurement page to do measurement settings.



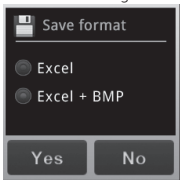
Measurement page

Next page

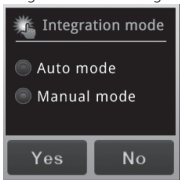
Back to measurement page

Previous page

Save Format Setting :

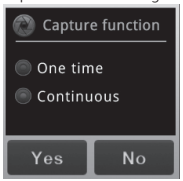


Integration Mode Setting :

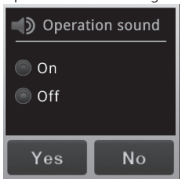


Integration Time Setting :

Capture Function Setting :



Operation Sound Setting :



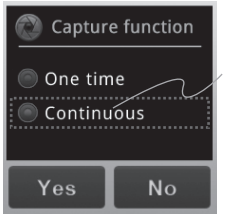
+ / - : Adjust key

Yes / No : End of the setting

3.4 Continuous Measurement Introduction

❶

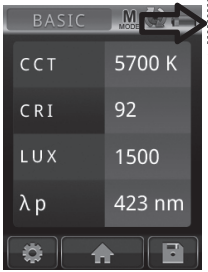
※ View capture function setting, refer 3.3



Select Continuous

❷

❸

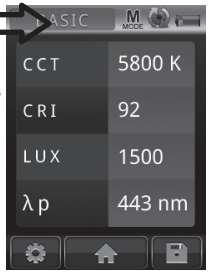


Basic mode
(start measurement)
press capture key

※ The capture symbol is rotating when MK350 is processing continuous measurement.

MK350 will process measurement with interval of 3 seconds.

❹



Basic mode
(after measurement)
Press the capture key again to see the measurement results.

Step1. Select the continuous capture

Step2. Press the capture key

Step3. Processing the continuous measurement

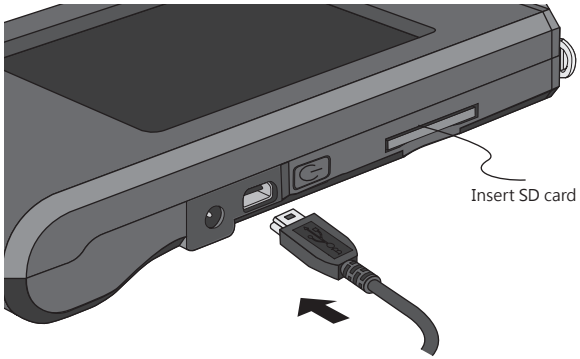
Step4. Press capture key again to stop continuous measurement

1. Continuous measurement has no beep sound after press capture key.
2. Users cannot save the measurement data while processing continuous measurement.
3. Adjust the integration time only can work in the manual mode.

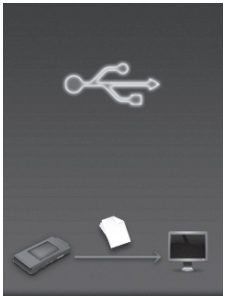
3.5 Transferring Data with PC Connection

Storage the measurement data：

Inside the package has a USB cable, connect the mini USB to MK350 and plug the USB to your PC then you can read the data saved in SD card.



After connected USB cable, MK350 will display as below.



4 Specification

4.1 Product Specification

4.1 Product Specification

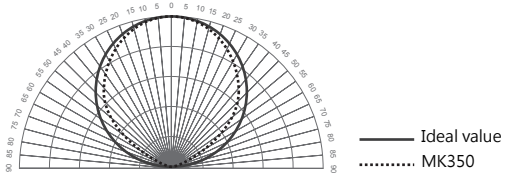
Sensor	CMOS linear image sensor
Spectral Bandwidth	Approximately 12 nm（half bandwidth）
Receptor Size	Ø 6.6 ± 0.1 mm
Cosine Correction	refer Figure 1.
Measurement Range	70 ~ 70000 Lux
Wavelength Range	360 ~ 750 nm
Integration Time Range	8 ~ 1000 ms
Capture Function	One time / Continuous
Integration Mode	Auto / Manual
Measuring Modes	1. Basic Value Mode 2. Spectrum Graph Mode 3. CIE 1931 Chromaticity Coordinates 4. CIE 1976 U.C.S Chromaticity Coordinates
Measuring Capabilities	1. Illuminance / Lux 2. Spectral Irradiance 3. C.I.E. Chromaticity Coordinates (1) CIE 1931 x,y Coordinates (2) CIE 1976 U.C.S u',v' Coordinates 4. Peak Wavelength 5. Correlated Color Temperature; CCT (in Kelvins) 6. Color Rendering Index; Ra (Rendering Average)
Digital Resolution	16 bits
Dark Calibration	Yes
Stray Light	-25 dB max. *1
Wavelength Data Increment	1 nm
Wavelength Reproducibility	± 1 nm *2

4.1 Product Specification

Illuminance Accuracy	Illuminant A @ 2856K at 20000 Lux	± 5%
Color Accuracy		± 0.0025 in CIE 1931 x,y
Color Repeatability		± 0.0005 in CIE 1931 x,y
CCT Accuracy		± 2%
CRI Accuracy @ Ra		± 1.5%
Display	3.5" LCD 320X240 Touch Panel	
Max. Files	≒ 2000 Files @ 2GB SD Card	
Battery Operation Time	≦ 5 hours / Fully Charged	
Battery	2500 mAh / Rechargeable Li-ion Battery	
Data Output Interface	SD Card / USB 2.0	
Data Format	Compatible Excel / BMP Date Format	
Dimensions	144.2 x 78 x 24 mm (H x W x D)	
Weight(with Battery)	250 g ± 20 g	
Operating Temperature	0 ~ 35 ℃	
Storage Temperature	-10 ~ 40 ℃	
Language Selection	English/Traditional Chinese/Simplified Chinese/Japanese	

*1 : Use the input of 550nm single-frequency and measurement the range of optical ± 40nm.
*2 : Input source must be a stable light source.
The company reserves the right to change product specifications, if it has any changes will not give any notice.

Figure 1 : Cosine Correction



5 Troubleshooting Guide

5.1 FAQ

5.1 FAQ

Q 1 : How long can I use after MK350 battery had fully charged ?

A : Usage time will depends on battery life, MK350 battery can operate 5 hours after fully charged.

Q 2 : Why the SD card always stuck on the slot while in / out the slot ?

A : This special designed is called "anti-fly card" functions, which can prevent SD card write error if SD card was hit accidentally.

Q 3 : Could MK350 measure the UV or IR Spectrum ?

A : No, MK350 measurement range is 360 ~ 750nm. You will need to buy the equipment that compatible with UV and IR spectrum.

Q 4 : Could MK350 measure the light that except LED light? Such as: fluorescent lamps (fluorescent lamps) ?

A : MK350 is the measurement equipment for LED lamps, it will not guarantee the results accuracy on other kind of lamps.

Q 5 : Do I need to execute dark calibration at every time power on the machine ?

A : The environment temperature changes will affect the measurement results, it is recommended to execute dark calibration when power on or execute the dark calibration after a period time of use.

If you still have other problems that is not in the FAQ, please visit WWW.UPRTEK.COM

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Appendix Warranty

6.1 Product Warranty

6.1 Product Warranty

Warranty：

◆ United Power Research Technology Co., Ltd. (hereinafter referred to as the "Company") to ensure that products shipped by all of the Company, do not have any material, manufacturing or functional defects in the following warranty period, any such defects within the warranty period, the company will be responsible for product repair or replacement of equal or higher specification products.

◆ This product is a precision optical equipment, its chassis open or tamper label has been artificially damaged, or the original shipping module upon any man-made loose which may lose its original performance, the above warranty is immediately invalidated.

Warranty Period：

◆ The Company during the warranty period of the end-user commitment for a period from the purchase delivery date of 12 months.

◆ User can extend warranty for extra 12 months through website regist serial number and also enjoy the first year of free calibration (excluding freight),during the warranty period, in addition to the following new products to replace the subject occurs, the Company may, according to product category to provide a replacement or repair warranty service.

◆ Determining whether a product during the warranty period, customers for maintenance services, please provide the relevant purchase to prove (for example: delivery receipt or invoice and other documents) in order to facilitate rapid job, if they failed to provide proof of purchase, the Company will check product serial number with the original date of manufacture or distributor shipping date, determine to be reasonable.

Shipping Cost：

◆ During the warranty period, if maintenance is necessary, please send the cargo to be sent to the maintenance point of the original purchase agent or the company.

6.1 Product Warranty

New Products Replacement：

◆ Customers to purchase within seven days found that non-human or irresistible force damage, dysfunction, or the apparent loss of the product itself split, rely on the relevant proof of purchase free of charge to the original agent to replace the new, the Company and from the normal shipping costs will be the full burden together with the original box packaging and all original accessories apply to the purchase of agent demand for change, late or accessories insufficiency of maintenance warranty program in the new replacement.

Warranty Exception Items：

◆ Product repair if the following circumstances, the Company reserve the right to charge a proper maintenance and parts costs, as well as between the two-way delivery full cost.

1. Warranty period expired or cannot prove product warranty period.
2. Not the company's legitimate distribution channel sales.
3. Pipelines acquired, directly or indirectly, through the parallel importation of overseas.
4. Products by non-authorized personnel maintained or disassembly.
5. Product damage due to force majeure (natural disasters, floods, fires, earthquakes, lightning, typhoons, pests, etc.), vandalism (scratches, falls, broken, blow, etc.), human error (missing parts, not properly custody, etc.) or due to other non-normal factors.
6. Consumables, such as case, screen protector, strap, neck strap, and other accessories not covered under warranty.
7. Special activities gifts are not covered under warranty.